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ABSTRACT

Accountability reports, using both qualitative and quantitative measures of higher education effectiveness, are being mandated by many state legislatures. To date, not enough is known about the components, measurement, and uses of summary data concerning faculty productivity at the higher education level. There are no universally accepted standards of academic performance for faculty at these institutions. The paper reports on a survey of United States institutions of higher learning regarding faculty productivity issues and attempts to develop from the data a pool of information regarding accountability that is reliable and generalizable across disciplines and institutions. Public and private institutions of higher learning (N=225) were sent institutional surveys and 50 public governing board surveys were sent to the Boards of Regents (or Trustees) for public institutions of higher learning of each state. Responses were received from 116 institutions in 45 states and from all 50 state governing boards. The paper describes survey findings about: (1) instruments of faculty productivity assessment; (2) major components of faculty productivity; (3) relationships between and among institutional categories; and (4) areas for future research. (Contains 24 references.) (MAH)

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Faculty Productivity: A National Institutional Perspective

a professional presentation

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FACULTY PRODUCTIVITY: A NATIONAL INSTITUTIONAL PERSPECTIVE

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Abstract

Accountability reports, using both qualitative and quantitative measures of higher education effectiveness, are being mandated in the democratic processes of many state legislatures across the nation. To date, not enough is known about the components of, measurement of, and uses of summary data concerning faculty productivity at the higher education level. There are no universally accepted standards of academic performance for faculty serving within these institutions. This study is an effort to survey U.S. institutions of higher learning regarding faculty productivity issues and to develop from the data a pool of information regarding accountability that is reliable and generalizable across disciplines and institutions.

Background

Attempts have been made since the early 1900s to measure faculty productivity for university accountability. Birge (1916) studied equivalence of course loads in English and algebra. Haggerty (1937) used clock hours rather than student contact hours to measure teaching load. By the late 1950s, many institutions of higher learning were attempting to measure faculty productivity and load through various measures for administrative and fiscal reasons (Cooper & Hensley, 1993b). During the 1960's, increasingly complex budgets, legislative demands for substantiation of funding requests, and federal and state audits created an environment in which more universities were undertaking faculty productivity measures to justify funding (Swann, Saunders, Simpson, & Wooley, 1977). Later, Lawler (1982) found that quantitative performance measures were acceptable to faculty, because public accountability was increasingly necessary.

Demographic variables of the academics themselves have been identified, such as age (Lawrence & Blackburn, 1988) and gender (Garland and Rike, 1987; Konrad, 1991). Social, psychological, and physiological characteristics of the individual as well as occupational, disciplinary, and institutional attributes have also been studied in an attempt to ascertain determinants of predictors of faculty productivity levels (Cooper & Hensley, 1993b). Faculty activities such as research publications, instruction, various service activities, and administration are common indicators of success, although quantification of achievement in these areas remains problematic (Cooper & Hensley, 1993a).

Attributes of the discipline and the university have also been researched heavily. Various instrumentation for investigations have included the following: (a)

faculty time and salaries (Jacobson, 1992); (b) a collegiality model (Katula & Doody, 1990), (c) publication records (Wallace, 1990), (d) the technical thesis (DeYoung, 1985), and diverse reporting systems (Cooper & Hensley, 1993b; Geuder, 1993; Heydinger & Simsek, 1992). The need for systematic faculty development strategies as an aid to overall faculty productivity has been also researched (Elmes-Crahall, 1992; Roever, 1990).

The early 1990s presented significant financial challenges to American higher education. The prolonged national economic recession led to relatively large restrictions in funding for higher education, and these funding shortfalls, in turn, led to rapid tuition increases at many public sector institutions. For students attending private colleges, the recession placed greater pressure on them and their families to pay the higher tuition charged at these institutions. The recession also exacerbated an already large federal deficit, threatening future federal support for higher education as well as hundreds of other areas of federal responsibility. Hauptman (1993) reports, in addition, that accumulated criticism about how higher education does its business has had the effect of reducing the traditional faith of policy makers and the American people in their system of colleges and universities. While these institutions are still generally acknowledged to be the best in the world, the many criticisms have taken their toll and have no doubt contributed to the erosion in financial support evident in the early 1990s. As labor-intensive organizations, institutions of higher education cannot address issues of productivity without dealing with the utilization and workloads of faculty and staff. Most institutions have a severely underdeveloped capacity to deal with these topics at a strategic level. The typical approach is to focus on accountability questions by a cost accounting emphasis.

Within the past decade, many of the country's public-funded "research" universities have come under attack for excessive administrative costs, excessive emphasis on faculty research which results in limited classroom teaching by senior faculty, and excessive tuition increases (Heydinger & Simsek, 1992). Large universities particularly have been assailed by the families of college students, the United States Congress, various state legislatures, private corporations and foundations, and the other constituencies that have traditionally funded higher education. Non-research institutions are under criticism for larger tuition increases with no conceivable additions to the offerings or services for students. In addition a major theme in the criticism for both large and small universities has been poor productivity by faculty, especially tenured senior faculty.

Jacobson (1992) reports that persistent legislative interests in how faculty members spend their time has put advocates of public higher education in an uncomfortable position. He reports that these institutions are on the defensive, dissatisfied about the way the issue is being framed, and anxious to give the public a more balanced view. Lisensky and Ewell (1988) report that colleges and universities are being asked to respond to increasing student and societal demands in an environment of severe fiscal constraint. This set of circumstances requires attention to issues of productivity, a fact often more fully recognized by those outside the academy than those within.

During the past three years, the Louisiana Accountability in Public Higher Education Advisory Committee, which advises the Louisiana Board of Regents (BOR) on suggested future endeavors, reported that there was no system-wide standard for reporting faculty workload or procedures to determine an objective evaluation of faculty productivity, state-wide (Louisiana Accountability in Public Higher Education Advisory Committee, 1994). This advisory group recommended that the BOR

standardize definitions for the above and develop consistent reporting forms for conducting annual evaluations and comparisons among state funded institutions.

The advisory committee's report recommended that BOR collect data to determine the effectiveness of each Louisiana public institution of higher learning. Higher education accountability was mandated by the Louisiana Legislature in 1993 and reaffirmed in a legislative committee during the 1994 session. A state-wide faculty evaluation system was recommended in the Master Plan for Higher Education developed in 1993 for the BOR. Neither the legislative accountability mandate nor the BOR recommendation, however, has resulted in a plan or system at the state level. As a result of the above inaction, Louisiana lawmakers passed Act No. 459 of the 1995 legislative session which will require all public state colleges and universities to prepare and submit to the BOR documentation of effectiveness to validate effectiveness in delivery of services during the 1996-1997 term.

Northwestern State University of Louisiana (NSU), a public university under the supervision of the Louisiana State Board of Regents (BOR), will respond accordingly. Its faculty, represented by the authors of this research, will utilize research findings in decisions relative to faculty productivity and institutional effectiveness.

The Problem To Be Investigated

Productivity, accountability, workload, effectiveness--these are rapidly becoming buzz words across college and university campuses in America. The public demand for outcomes seems to affect research and teaching institutions alike. Both large and small, public and private higher education institutions are implicated in the above matters.

The purpose of this research is to investigate national trends concerning faculty productivity and the use of faculty productivity reports to reflect accomplishments of higher education faculty. Institutional effectiveness is the larger umbrella that, in effect, measures the productivity of the entire institution. One portion of that umbrella, the human resource dimension, relates to the direct learning environment. In effect, what does the teacher (professor) do to justify compensation for services rendered?

Interest in faculty workloads intensified in the early 1990s, when lawmakers across the nation began to press for a renewed emphasis toward undergraduate education at U. S. public colleges and universities. They wanted to know why so many classes were being taught by teaching assistants and were shocked to find examples such as on by the state auditor of New York, that a typical professor spent less than nine hours a week in a classroom. Legislators in Connecticut, North Carolina, Massachusetts, Washington, and Ohio have called for professors to spend more time with undergraduates (Cage, 1995). It seems that traditional independent governance of each American university campus has resulted in the development of site-specific sets of productivity measures that serve only the internal evaluation needs of a particular institution.

There is no empirical evidence on the current status of faculty productivity reporting systems within U.S. institutions of higher learning, although the literature is filled with differing measures of faculty productivity and with multiple criticisms of existing reporting systems (Cooper & Hensley, 1993a). In the past, faculty productivity has been analyzed by institutions and funding sources in a number of different ways, for the purpose of ensuring accountability for funding provided to

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higher education. Missouri Governor John Ashcroft noted that the public has a right to know what it is getting for its expenditure of tax resources and that their resources are being wisely invested and committed. The U.S. Department of Education (1986), many disciplinary accrediting organizations, and state public officials such as the National Governors' Association have become involved in the assessment of the activities of post secondary education, including faculty productivity.

As a result of the above escalation in interest in faculty productivity in U. S. institutions of higher learning, three major inquiries were addressed with this investigation. First, where does the mandate for faculty productivity measurement arise--from legislative sources, from governing boards, or from the institutions of higher learning, themselves? Second, what procedures are presently used to measure productivity and what are the components of faculty productivity most widely used, nationally? Third, are there relationships between demographic descriptors of U. S. institutions of higher learning and components of faculty productivity measurement?

Research Questions

1. Where does the faculty productivity mandate for U. S. institutions of higher learning originate?
2. What components are considered to be included in faculty productivity measurement or evaluation, nationally?
3. How are faculty productivity measurement components incorporated into the final faculty productivity report and who incorporates them?
4. What relationships exist between components of faculty productivity measurement identified above and (a) national accreditation regions, (b) institutional student enrollment, (c) institutional operating budget, (d) academic division status, and (e) institutional funding category (public versus private)?
5. What relationships exist between how faculty productivity evaluations are used and (a) national accreditation regions, (b) institutional student enrollment, (c) institutional operating budget, (d) academic division status, and (e) institutional funding category (public versus private)?
6. What relationships exist between professional/staff development efforts of U. S. institutions of higher learning and (a) national accreditation regions, (b) institutional student enrollment, (c) institutional operating budget, (d) academic division status, and (e) institutional funding (private versus public)?

Design of the Study

Two surveys were developed for this study. The institutional survey categorized the major components reflected in the literature concerning faculty productivity measurement and referenced demographic characteristics of U. S. institutions of higher learning. The state governing body survey requested specific information about the source of mandate for faculty productivity measurement from state governing boards of public institutions of higher learning. The surveys were refined by administrative and curriculum faculty within the Division of Education as well as the Office of Institutional Research at Northwestern State University of Louisiana. Changes were incorporated based on comments and suggestions of the readers.

Faculty productivity components included on the institutional survey and reflected in the research literature included: (a) instructional, (b) advising, (c)

publication, (d) community service, (e) length of university service, and (f) university service projects. Institutional demographic variables included: (a) national accreditation region, (b) institutional student enrollment, (c) institutional operating budget, (d) academic division status, and (e) institutional funding (private versus public). Components for the composition of the faculty productivity report included: (a) individual faculty members, themselves, (b) department heads, (c) deans/directors, (d) vice presidents, and (e) significant higher administrators. Components for use of the faculty productivity report when finalized included: (a) continuation, (b) promotion, (c) tenure, and (d) merit pay. Last, formulation of the faculty productivity report included the following components: (a) peer evaluation, (b) focus groups, (c) student rating forms, (d) teaching portfolios, and (e) supervisor evaluations.

Two hundred twenty-five public and private U. S. institutions of higher learning were selected at random from a list of members of the Association for Institutional Research (AIR, 1994). The Director of Institutional Research for each selected school was mailed a copy of the institutional survey to determine procedures for faculty productivity measurement used at that location. In addition, fifty public governing board surveys were mailed to the Boards of Regents (or Trustees) for public institutions of higher learning of each state.

Responses from one hundred sixteen institutions in forty-five states, or fifty-two percent of the initial sample, returned surveys. In addition, all fifty state governing boards responded to the second survey. The Pearson Chi-Square statistic was used to test relationships identified in research questions 4, 5, and 6, above. The Yates correction for statistical significance was used when appropriate. Statistical analysis was accomplished using MYSTAT (SYSTAT, 1990) desktop software. A relationship was considered significant at $p \leq .05$. Since the selection of U. S. institutions of higher learning to be included in this study was random, the research conclusions were generalizable to the national population of AIR institutions.

Results of the Analysis

All national accreditation regions are represented by the 116 responding institutions in the present study. Seventy-seven reporting institutions were public institutions and thirty-nine were private. Sixty institutions reported enrollment of less than 5,000 students while 24 reported enrollment between 5,000 and 10,000, 12 reported enrollment between 10,000 and 15,000 students, and 20 institutions reported enrollment above 15,000 students. In addition, 45 institutions reported an operating budget of $25 million or less, 45 reported operating budgets between $25 million and $40 million, and 26 institutions reported budgets of over $40 million. Last, 28 respondents were Doctoral I or II institutions, 36 institutions were master's/specialist institutions, 19 institutions were undergraduate-only, and 33 were community or junior colleges .

Research Question 1: Where does the faculty productivity mandate for U. S. institutions of higher learning originate?

State legislative mandates were reported by higher education supervisory boards to be present in 14 states, defining and requiring some type of standardized faculty productivity measure state-wide. Ten states reported that higher education governing and supervisory boards, absent specific legislative statute, had mandated standardized faculty productivity measures state-wide. Finally, 26 supervisory boards reported that

their state had no legislative mandate or supervisory board mandate for any type of standardized, state-wide higher education faculty productivity measurement process. It is noted, though, that all 116 responding institutions reported an organized faculty productivity measurement process, even though the process was sometimes locally devised and not used as part of a state-wide mandate.

Research Question 2: What components are considered to be included in faculty productivity measurement or evaluation, nationally?

All 116 responding institutions in this study reported having an instructional (or observational) component to their faculty productivity measurement process with many institutions listing additional categories. Summary tabulations of additional components of faculty productivity measurement show that (a) 67 institutions used faculty advising assignments, (b) 66 used faculty publications, (c) 69 used faculty research, (d) 69 used community service, (e) 22 used length of time of service to the institution, and (f) 60 considered university service projects.

It was noted that all 116 reporting institutions responded by selecting more than two categories as used in their assessment procedure. In fact, the average number of components used to formulate most faculty productivity measurements was 4.

Research Question 3: How are faculty productivity measurement components incorporated into the final faculty productivity report and who incorporates them?

The 116 responding institutions reported using a variety of reporting mechanisms for producing the final faculty productivity report. Data revealed that 62 institutions allowed faculty members to self-complete their own faculty productivity reports. In addition, 64 institutions used additional input from department heads, 55 reported some input from deans, 12 reported input from vice presidents, and 17 reported some other significant administrator on campus provided input on the faculty productivity report.

Institutional application of the faculty productivity process revealed that 86 institutions reported use for continued employment, 71 for promotion, 71 for tenure, and 37 for merit pay. Significant groups reported to have input toward individual faculty productivity evaluation are shown by (a) 100 institutions reporting that line supervisors or department heads had direct input into faculty productivity evaluation, (b) 63 institutions utilized faculty peer input, and (c) 82 institutions reported some form of student input. Instruments of faculty productivity assessment used by the responding institutions included (a) 59 using peer evaluation, (b) 99 using student rating forms, (c) 43 using teaching portfolios, and (d) 85 using supervisor evaluation.

Twenty-two institutions correlated productivity with financial data. In addition, it was reported that the university administration was usually responsible for updating the evaluation system. Twenty-nine institutions reported university committees were used to update faculty productivity standards. Thirty-four institutions solicited faculty input prior to initiating faculty productivity measurement change.

Research Question 4: What relationships exist between components of faculty productivity measurement identified above and (a) national accreditation regions, (b) institutional student enrollment, (c) institutional operating budget, (d) academic division status, and (e) institutional funding category (public versus private)?

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A significant relationship was found between academic division status and university use of (a) publications, (b) research, and (c) community service as faculty productivity measures. Pearson Chi-square values were 30.743, 29.119, and 11.748, respectively (df=2). Visual inspection of contingency tables revealed more emphasis placed on publication, research, and community service toward faculty productivity measurement in larger institutions and less emphasis by undergraduate schools or community colleges. A significant relationship was found between the above demographic variable and faculty peer evaluation used as a determinant of faculty productivity. The Pearson Chi-square value was 10.640 (df=2). No significant relationship was noted, however, between academic division status and the faculty productivity components: (a) advising, (b) length of service to the university, and (c) university service.

In addition, a significant relationship existed between institutional operating budget category and faculty productivity use of (a) publications, (b) research, and (c) community service as productivity measures. Chi-square values were 29.536, 41.101, and 16.759, respectively (df=4). Significance was also found between the above demographic variable and faculty peer evaluation used as a determinate of faculty productivity. The Pearson Chi-square value was 11.591 (df=4). Visual inspection of contingency tables revealed more emphasis placed on the above uses from those institutions with larger operating budgets.

No significant relationship was found to exist between national accreditation region, institutional student enrollment, or institutional funding category and any of the faculty productivity measurement components: (a) publications, (b) research, (c) community service, (d) advising, (e) length of service to the university, or (f) university service projects. Furthermore, there was no significant relationship between any institutional demographic variable and the composition of the committee to formulate the faculty productivity report. This would imply that the two factors in each comparison were independent of each other.

For purposes of determining relationships between public and private institutions, community colleges were deleted from the data since the community college is primarily a public institution. Thus, 83 institutions were in the data base. It is noted that no significant relationships were found between public and private institutions in any of the above faculty productivity measurement components.

Research Question 5: What relationships exist between how faculty productivity evaluations are used and (a) national accreditation regions, (b) institutional student enrollment, (c) institutional operating budget, (d) academic division status, and (e) institutional funding category (public versus private)?

A significant relationship was found between academic division status and use of the faculty productivity report for (a) promotion, (b) tenure, and (c) merit pay. Pearson Chi-square values were 17.908, 13.530, and 7.968, respectively (df=2). A significant relationship was also found between institutional operating budget and use of the faculty productivity report for (a) promotion, (b) tenure, and (c) merit pay with Chi-square values of 33.255, 20.730, and 10.201, respectively (df=4). In addition, a significant relationship was found between institutional student enrollment and the faculty productivity use categories (a) promotion, (b) tenure, and (c) merit pay with Pearson Chi-square values of 8.719, 10.791, and 10.023 (df=2). Visual inspection of all contingency tables revealed more emphasis placed on the above three categories by

institutions having larger academic division status, larger student enrollment, and larger operating budget.

No significant relationships were found, however, between either national accreditation regions or institutional funding category and the four components of faculty productivity use investigated in this study: (a) continuation, (b) promotion, (c) tenure, and (d) merit pay. There was also no significant relationship between either institutional student enrollment, academic division status, and institutional operating budget and use of faculty productivity report information for continuation of employment.

Research Question 6: What relationships exist between professional/staff development efforts of U. S. institutions of higher learning and (a) national accreditation regions, (b) institutional student enrollment, (c) institutional operating budget, (d) academic division status, and (e) institutional funding (private versus public)?

A significant relationship existed between those institutions offering faculty institutes for professional staff development and institutional operating budget. A Pearson Chi-squared value of 13.703 (df=4) was noted. Visual examination of the contingency table indicated more emphasis toward professional development activities by institutions with larger operating budgets.

No significant relationship was found, however, between the planning of faculty institutes for faculty productivity enhancement and (a) national accreditation regions, (b) institutional student enrollment, (c) academic division status, or (d) institutional funding category. Pearson Chi-square values of 4.236 (df=4), 8.236 (df=4), 1.012 (df=2), and 1.832 (df=1, Yates Corrected).

Conclusions

Legislative mandates exist in 14 states to standardize faculty productivity measurement state-wide, and BOR mandates exist in 10 states to regulate measurements. However, 26 states do not have directives from either of the above entities to standardize the faculty productivity measurement.

Faculty productivity is measured in multiple dimensions within U. S. institutions of higher learning. The average number of dimensions reported in this study from 116 institutions was 4 from the following 6 components mentioned in research literature: (a) instructional, (b) advising, (c) publication, (d) community service, (e) length of university service, and (f) university service projects.

Instruments of faculty productivity assessment used by the responding institutions included (a) peer evaluations, (b) student rating forms, (c) teaching portfolios, and (d) supervisor evaluations. Twenty-two institutions correlated productivity with financial data. In addition, the university administration was usually responsible for updating the evaluation system. Twenty-nine institutions reported that university committees were used to update faculty productivity standards. Thirty-four institutions solicited faculty input prior to initiating faculty productivity measurement change.

Results suggest that major components of faculty productivity generally concentrate in the areas of (a) instructional evaluation by superiors and peers, (b) publications, (c) research, and (d) service. Significant relationships exist between academic division status and institutional operating budget and the faculty productivity categories: (a) publications, (b) research, and (c) community service. Also the above

two institutional categories had significant relationships with peer faculty assisting in the evaluation process. More emphasis was observed from larger academic division institutions with more institutional operating budget.

Non-significant relationships were reported between national accreditation regions and institutional funding category and any of the 6 components of faculty productivity measurement most mentioned in the research literature. These data show consistency across the nation in process and procedure within regional accreditation areas.

No significant relationship existed between institutional operating budget, academic division status, institutional student enrollment, or institutional funding category and the productivity measurement criteria: (a) advising, (b) length of service to the university, and (c) university service. In addition, no significant relationships were found between these two university categories and the composition of the committee to formulate the faculty productivity report, i.e., faculty members, themselves, department heads, deans, vice presidents, or other significant administrators. A significant relationship was found between professional/staff development initiatives and institutional operating budget. From contingency table examination, those institutions with larger budgets were involved in more initiatives.

Significant relationships were noted between the institutional categories enrollment, operating budget, and division status and the uses of the faculty productivity report for (a) promotion, (b) tenure, and (c) merit pay. No significant relationship existed between the institutional categories and use of the report for continuation of employment.

Future research is suggested in the areas of significance between the amount of professional development provided by institutions of higher learning and uses of the faculty productivity instrument. Demographic components of U.S. institutions of higher learning could be the same as those in this research.

As more institutions become involved in improving institutional effectiveness, the relationship between efforts to improve over-all institutional effectiveness and demographic components should be investigated. Also, the relationship between any of the components of faculty productivity measurement identified in this research and institutional effectiveness improvement initiatives should be studied.

Finally, future inquiry might explore by Z-test for two-group proportions the data visually inspected in this investigation. This procedure would isolate differences between groups and give more definition to the visual inspection of significant contingency tables.

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